This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1)   (Currently Amended) A method for selecting a value in a distributed computing system, the method comprising:

receiving at a computing device from a first client a first message comprising a first proposed value from a first client having and a first client identifier corresponding to the first client;

voting at the computing device for the first proposed value in a first system step;

transmitting from the computing device a first indication of the voting for the first proposed value to one or more devices; and

transmitting from the computing device a first result of the voting for the first proposed value to the first client,

wherein the voting for the first proposed value, the transmitting the first indication of the voting for the first proposed value, and the transmitting the first result are not performed if a second proposed value was proposed by a second client a second message is received at the computing device from a second client, the second message comprising a second proposed value and having a second client identifier corresponding to a second client, the second client identifier being that is more dominant than the first client identifier and the second proposed value having been was previously voted for.

2)   (Original) The method of claim 1, wherein the first proposed value comprises a first function, and wherein the voting for the first proposed value comprises provisionally executing the first function in the first system step.

3)   (Original) The method of claim 1, wherein the voting for the first proposed value comprises changing a previous vote for the second proposed value if the second proposed value was previously voted for and if the second client identifier is less dominant than the first client identifier.

4)   (Original) The method of claim 1, wherein the first proposed value comprises

a first function identified by a first function identifier, and wherein the voting for the first

proposed value comprises executing the first function in the first system step unless the first

function identifier is equivalent to a second function identifier that identifies a second

function, wherein the second function was executed in a second system step that preceded the

first system step.

5)   (Original) The method of claim 1, wherein the first proposed value comprises
a first idempotent function, and wherein the voting for the first proposed value comprises
executing the first idempotent function in the first system step even if the first idempotent
function is equivalent to a second idempotent function that was executed in a second system
step that preceded the first system step.

6)   (Original) The method of claim 1 further comprising: receiving a message,
wherein the message is part of a fault tolerant consensus algorithm; ignoring additional
proposed values from the first client; and participating in the fault tolerant consensus
algorithm.

7)   (Original) The method of claim 6, wherein the participating in the fault
tolerant consensus algorithm comprises transmitting a possibly selected proposed value if a
proposed value was previously voted for, wherein the possibly selected proposed value was
previously voted for and was proposed by a client having a most dominant client identifier
among all clients whose proposals were received and who proposed values for a current
system step.

8)   (Original) The method of claim 1 further comprising: transmitting one or more
polling messages to initiate a fault tolerant consensus algorithm; receiving one or more vote
indication messages in response to the one or more polling messages; and selecting, as a third
proposed value, any value if the one or more vote indication messages indicate that at least
one device has not previously voted or if the one or more vote indication messages indicate
two or more different possibly selected proposed values, or selecting, as the third proposed
value, a common possibly selected proposed value if all possibly selected proposed values

indicated by the one or more vote indication messages are equivalent to the common possibly selected proposed value, wherein a possibly selected proposed value was previously voted for by a device and was proposed by a client having a most dominant client identifier among all clients whose proposals were received by the device, and wherein further the third proposed value is proposed using the fault tolerant consensus algorithm.

9)   (Currently Amended) A computer-readable storage medium having computer-executable instructions for selecting a value in a distributed computing system, the computer-executable instructions performing steps comprising:

receiving at a computing device from a first client a first message comprising a first proposed value from a first client having and a first client identifier corresponding to the first client;

voting at the computing device for the first proposed value in a first system step;

transmitting from the computing device a first indication of the voting for the first proposed value to one or more devices; and

transmitting from the computing device a first result of the voting for the first proposed value to the first client,

wherein the voting for the first proposed value, the transmitting the first indication of the voting for the first proposed value, and the transmitting the first result are not performed if a second proposed value was proposed by a second client a second message is received at the computing device from a second client, the second message comprising a second proposed value and having a second client identifier corresponding to the second client, the second client identifier being that is more dominant than the first client identifier and the second proposed value having been was previously voted for.

10)   (Currently Amended) The computer-readable storage medium of claim 9, wherein the first proposed value comprises a first function, and wherein the voting for the first proposed value comprises provisionally executing the first function in the first system step.

11)   (Currently Amended) The computer-readable storage medium of claim 9,

wherein the voting for the first proposed value comprises changing a previous vote for the second proposed value if the second proposed value was previously voted for and if the second client identifier is less dominant than the first client identifier.

12)   (Currently Amended) The computer-readable storage medium of claim 11, wherein the second proposed value comprises a second proposed function, and wherein the changing the previous vote comprises undoing a previous execution of the second proposed function.

13)   (Currently Amended) The computer-readable storage medium of claim 11, wherein the second proposed value comprises a second proposed function, and wherein the changing the previous vote comprises allowing a previous provisional execution of the second proposed function to expire.

14)   (Currently Amended) The computer-readable storage medium of claim 9, wherein the first proposed value comprises a first function identified by a first function identifier, and wherein the voting for the first proposed value comprises executing the first function in the first system step unless the first function identifier is equivalent to a second function identifier that identifies a second function, wherein the second function was executed in a second system step that preceded the first system step.

15)   (Currently Amended) The computer-readable storage medium of claim 9, wherein the first proposed value comprises a first idempotent function, and wherein the voting for the first proposed value comprises executing the first idempotent function in the first system step even if the first idempotent function is equivalent to a second idempotent function that was executed in a second system step that preceded the first system step.

16)   (Currently Amended) The computer-readable storage medium of claim 9 having further computer-executable instructions for performing steps comprising: receiving at a computing device a message, wherein the message is part of a fault tolerant consensus algorithm method; ignoring additional proposed values from the first client; and participating

in the fault tolerant consensus ~~algorithm~~ method.

      17)   (Currently Amended) The computer-readable storage medium of claim 16, wherein the participating in the fault tolerant consensus ~~algorithm~~ method comprises transmitting from the computing device a possibly selected proposed value if a proposed value was previously voted for, wherein the possibly selected proposed value was previously voted for and was proposed by a client having a most dominant client identifier among all clients whose proposals were received and who proposed values for a current system step.

      18)   (Currently Amended) The computer-readable storage medium of claim 9 having further computer-executable instructions for performing steps comprising: transmitting from the computing device one or more polling messages to initiate a fault tolerant consensus ~~algorithm~~ method; receiving at the computing device one or more vote indication messages in response to the one or more polling messages; and selecting, as a third proposed value, any value if the one or more vote indication messages indicate that at least one device has not previously voted or if the one or more vote indication messages indicate two or more different possibly selected proposed values, or selecting, as the third proposed value, a common possibly selected proposed value if all possibly selected proposed values indicated by the one or more vote indication messages are equivalent to the common possibly selected proposed value, wherein a possibly selected proposed value was previously voted for by a device and was proposed by a client having a most dominant client identifier among all clients whose proposals were received by the device, and wherein further the third proposed value is proposed using the fault tolerant consensus ~~algorithm~~ method.

      19)   (Currently Amended) A computing device operating as part of a distributed computing system, the computing device comprising:
         a processing unit performing steps comprising:
               comparing at a computer device a first client identifier to a second client identifier if a second proposed value, proposed in a message receives from ~~by~~ a second client and comprising ~~having~~ the second client identifier and the second proposed value, was previously voted for in a first system step; and

voting for a first proposed value in the first system step if the first

client identifier is more dominant than the second client identifier and the

second proposed value was previously voted for; and

a network interface performing steps comprising:

receiving at the computing device from the first client a first message

comprising the first proposed value from a first client having the and a first

client identifier corresponding to the first client;

transmitting from the computing device a first indication of the voting

for the first proposed value to one or more devices also operating as part of the

distributed computing system; and

transmitting from the computing device a first result of the voting for

the first proposed value to the first client,

wherein the voting for the first proposed value, the transmitting the first

indication of the voting for the first proposed value, and the transmitting the first

result are not performed if the second client identifier corresponding to the second

client is more dominant than the first client identifier and the second proposed value

has been previously voted for.

20)   (Original) The computing device of claim 19, wherein the first

proposed value comprises a first function, and wherein the voting for the first

proposed value comprises provisionally executing the first function in the first system

step.

21)   (Original) The computing device of claim 19, wherein the voting for

the first proposed value comprises changing a previous vote for the second proposed

value if the second proposed value was previously voted for and if the second client

identifier is less dominant than the first client identifier.

22)   (Original) The computing device of claim 21, wherein the second

proposed value comprises a second proposed function, and wherein the changing the

previous vote comprises undoing a previous execution of the second proposed

function.

23)   (Original) The computing device of claim 21, wherein the second proposed value comprises a second proposed function, and wherein the changing the previous vote comprises allowing a previous provisional execution of the second proposed function to expire.

24)   (Original) The computing device of claim 19, wherein the first proposed value comprises a first function identified by a first function identifier, and wherein the voting for the first proposed value comprises executing the first function in the first system step unless the first function identifier is equivalent to a second function identifier that identifies a second function, wherein the second function was executed in a second system step that preceded the first system step.

25)   (Original) The computing device of claim 19, wherein the first proposed value comprises a first idempotent function, and wherein the voting for the first proposed value comprises executing the first idempotent function in the first system step even if the first idempotent function is equivalent to a second idempotent function that was executed in a second system step that preceded the first system step.

26)   (Currently Amended) The computing device of claim 19, wherein the processing unit performs further steps comprising: ignoring additional proposed values from the first client; and participating in a fault tolerant consensus ~~algorithm~~ method; and wherein the network interface performs further steps comprising: receiving a message, wherein the message is part of the fault tolerant consensus ~~algorithm~~ method.

27)   (Currently Amended) The computing device of claim 26, wherein the participating in the fault tolerant consensus ~~algorithm~~ method comprises transmitting a possibly selected proposed value if a proposed value was previously voted for, wherein the possibly selected proposed value was: previously voted for and was

proposed by a client having a most dominant client identifier among all clients who
proposed values to the computing device for a current system step.

28)   (Currently Amended) The computing device of claim 19, wherein the
processing unit performs further steps comprising: selecting, as a third proposed
value, any value if one or more vote indication messages indicate that at least one
device has not previously voted or if the one or more vote indication messages
indicate two or more different possibly selected proposed values, or selecting, as the
third proposed value, a common possibly selected proposed value if all possibly
selected proposed values indicated by the one or more vote indication messages are
equivalent to the common possibly selected proposed value, wherein a possibly
selected proposed value was previously voted for by a device and was proposed by a
client having a most dominant client identifier among all clients whose proposals
were received by the device, and wherein further the third proposed value is proposed
using the fault tolerant consensus ~~algorithm~~ method; and wherein the network
interface performs further steps comprising: transmitting one or more polling
messages to initiate the fault tolerant consensus algorithm; and receiving the one or
more vote indication messages in response to the one or more polling messages.

29)   (Original) The computing device of claim 19, wherein the operating as
part of the distributed computing system comprises operating as a client of the
distributed computing system.

30)   (Original) The computing device of claim 19, wherein the distributed
computing system is comprised of devices that are also clients of the distributed
computing system.

31)   (Currently Amended) A conflict tolerant message delay reducing
consensus ~~algorithm~~ method for use in a̲ computing environment comprising a̶ at least
one̲ dedicated client device and a distributed computing system implemented by one
or more devices, wherein the computing system implements the conflict tolerant

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message delay reducing consensus ~~algorithm~~ <u>method</u>, the conflict tolerant message delay reducing consensus ~~algorithm~~ <u>method</u> comprising:

transmitting one or more proposed values from one or more clients<u>, each of the one or more proposed values being transmitted in a message comprising one of the one or more proposed values and a client identifier corresponding to one of the one or more clients</u>;

voting, at one or more of the one or more devices implementing the distributed computing system, for a proposed value from among the one or more proposed values, wherein the proposed value was proposed by a client having a most dominant client identifier from among the one or more clients proposing values;

transmitting to one or more of the one or more devices implementing the distributed computing system an indication of the vote for the proposed value; and

transmitting, to the client having the highest client identifier, a result of the vote for the proposed value

<u>wherein the voting for the first proposed value, the transmitting the indication of the vote for the proposed value, and the transmitting the result are not performed if the proposed value was proposed by a client not having a most dominant client identifier from among the one or more clients proposing values.</u>

32)   (Currently Amended) The conflict tolerant message delay reducing consensus ~~algorithm~~ <u>method</u> of claim 31, wherein the one or more devices implementing the distributed computing system also act as clients of the distributed computing system.

33)   (Currently Amended) The conflict tolerant message delay reducing consensus ~~algorithm~~ <u>method</u> of claim 31, wherein the dedicated client device is identified by a least dominant client identifier.

34)   (Currently Amended) The conflict tolerant message delay reducing

consensus ~~algorithm~~ method of claim 31 further comprising: determining that the distributed computing system has selected the proposed value when each of the one or more devices implementing the distributed computing system has voted for the proposed value.

35)   (Currently Amended) The conflict tolerant message delay reducing consensus ~~algorithm~~ method of claim 31, wherein the proposed value comprises a function, and wherein the voting for the proposed value comprises provisionally executing the function in a system step.

36)   (Currently Amended) The conflict tolerant message delay reducing consensus ~~algorithm~~ method of claim 31, wherein the voting for the proposed value comprises changing a previous vote if the previous vote was for a previously proposed value, proposed by a previous client having a client identifier that is less dominant than the client proposing the proposed value.

37)   (Currently Amended) The conflict tolerant message delay reducing consensus ~~algorithm~~ method of claim 31 further comprising: ending the conflict tolerant message delay reducing consensus ~~algorithm~~ method and commencing a fault tolerant consensus ~~algorithm~~ method if a failure is detected.

38)   (Currently Amended) The conflict tolerant message delay reducing consensus ~~algorithm~~ method of claim 37, wherein the failure is detected by a monitoring device, and wherein the computing environment further comprises the monitoring device.

39)   (Currently Amended) The conflict tolerant message delay reducing consensus ~~algorithm~~ method of claim 37, wherein the commencing the fault tolerant consensus ~~algorithm~~ method comprises identifying a possibly selected proposed value, wherein the possibly selected proposed value is any value if at least one of the one or more devices implementing the distributed computing system did not

previously vote or, if at least one of the one or more devices implementing the
distributed computing system previously voted, then the possibly selected proposed
value was previously voted for by at least one of the one or more devices
implementing the distributed computing system and was proposed by the client
having the most dominant client identifier from among the one or more clients
proposing values, for a current system step, to the at least one of the one or more
devices implementing the distributed computing system.